

REMARKS

In the Examiner's Answer a new grounds of rejection of all the claims on appeal was set forth. Claims 1-8 and 34-43 were rejected under 35 U.S.C. §101. Claims 1, 2, 5, 34 and 41 have been amended and claims 44 to 49 have been added. The rejection is based primarily on the Federal Circuit decision, *In re Bilski*. The Examiner's Answer stated that "applicant's method steps fail the first prong of the new Federal Circuit decision since they are not tied to a machine and can be performed without the use of a particular machine."

Application of the *Bilski* Test

As a threshold issue, Applicant brings to the Examiner's attention that none of the pending claims are method claims. They are all directed towards an apparatus under §101, namely, a server computer. Claims 1 and 41 are amended to specifically recite what Applicant believes was already clear in the claims in light of the specification: that the server is a machine, namely, a server computer and, thus an apparatus under §101. As such, its analysis under *Bilski*, which addresses method claims, is misplaced.

First Branch of the *Bilski* Test: Recitation of a Machine

However, Applicant asserts, in the alternative, that even if the apparatus recited in the amended claims is examined under *Bilski* for potential §101 deficiencies, it still holds up as patent-eligible subject matter. The claimed server computer, referred to as an OPAL server, is described in the specification as a computer connected to a network (*see, e.g.*, FIG. 3). As is typical with many computers, the OPAL server computer has various hardware components, software modules, storage devices (memory), databases, network interfaces and other elements. The claims recite hardware, software, and databases that are each central to the inventive concept behind the claimed invention. Some of the software elements are described in terms of their function, their input and output, and how they transform data. Claims 1 and 41 also recite a hardware security module. This module is described in one embodiment in the specification as a tamper-proof *device* used to perform cryptographic functions, such as encrypting/decrypting monetary balances, execute purchase algorithms (a function particular to the claimed invention), and store confidential data, such as cryptographic keys. The hardware security module has an

important role in the claimed invention and works in conjunction with at least two other elements of the claim, a smart card emulator and the virtual smart card database.

New claims 45, 46, 48, and 49 make it clear that the OPAL server is a server computer and that the hardware security module may be a hardware component that makes the OPAL server a particular machine. The hardware security module does not enable “merely insignificant extra-solution activity.” To understand the important role of the hardware security module, we turn to the language of the specification. The specification states that “[c]ard emulator 266 interacts with card database 270 and a hardware security module (HSM) 268 to effectively replace the physical smart card and reader” and that “HSM 268 is generally a tamper-proof device which uses some level of physical security measures to protect sensitive information inside.”

As the new claims recite and specific embodiments in the specification show, the hardware security module may be a hardware device in the OPAL server computer and that it performs functions that are directly tied to other elements of the claim and that are specific to the functionality of the server. This includes storing purchase algorithms and performing cryptographic functions associated with a purchase. Finally, new claims 44 and 47 recite that the database and software components of the OPAL server computer are stored in a memory device in the computer.

Second Branch of the Bilski Test: Transformation of an Article

Although the Examiner’s Answer does not raise the issue of transforming an article (the second branch of *Bilski*), Applicant has amended the claims to clearly show that such a transformation is occurring. Claim 1 requires an OPAL server to perform a purchase transaction and communicates with a merchant server and a payment server to transact a purchase using a virtual smart card. Claim 41 requires an OPAL server to perform a load transaction to increase a monetary balance on a virtual card. Thus, these claims are not drawn to an abstract concept, an algorithm or a series of mental steps. A virtual smart card database in the OPAL server stores records which include a monetary balance indicating money available for making purchases. The “monetary balance” referred to in the amended claims represents a physical and tangible item, namely, money. A pseudo card reader module in the server computer receives smart card commands relating to a purchase for performing a transaction using a virtual smart card. The commands are processed by the smart card emulator in the OPAL server. The smart card emulator increases or decreases the balance of money stored in the record. The OPAL server may also receive a debit command from a payment server which debits money available on a

smart card, that is, it decreases the balance of money in the record associated with the virtual smart card. Thus, the balance has been transformed into a different state that is perceived and is tangible.

As required by *Bilski* at III. B., the transformation must be central to the purpose of the claimed process. It must impose meaningful limits on the claim's scope and must not merely be insignificant extra-solution activity. And as noted by *Bilski* at IV., transformations of public or private legal obligations, business risks, options, etc., do not involve the transformation of any physical objects, or of an electronic signal representing a physical object. In contrast, claims 1 and 41 recite an apparatus that enables a transaction using a virtual smart card and changes a monetary balance of funds which represents actual money. The transaction causes a change in the balance field in a smart card record in the database. The transformation of the article in claim 1 is the changing of a balance of funds that represents actual money.

Finally, the Federal Circuit *State Street* decision specifically held that “the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a [patent-eligible invention] because it produces ‘a useful, concrete and tangible result.’” Applicant understands that this test for a “useful, concrete and tangible result” has been supplanted by the machine-or-transformation test stated in *Bilski*, but asserts that *State Street* still makes clear that transforming dollar or monetary amounts does result in a “useful, concrete and tangible result.” Thus, transforming the monetary balance of funds as provided for in the claims likewise represents a concrete and tangible result as in *State Street*, and is evidence that transformation of an article (or funds that represent a tangible article) is occurring as required by *Bilski*.

Conclusion

In conclusion, by making amendments that clarify that the apparatus enables transformation of an article, Applicant is not conceding that the claims do not recite patent-eligible subject matter under the first branch of *Bilski*. Applicant maintains that the amended claims clearly recite an apparatus and therefore satisfies the requirements of §101.

Should the Examiner believe that a telephone conference would expedite the prosecution

of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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